

INTERNATIONAL SEARCH REPORT

Int'l Application No
PCT/JP 03/11799

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B01J19/32 F28F25/08 F28F25/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B01J F28F B01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 224 351 A (JEANNOT PIERRE ET AL) 6 July 1993 (1993-07-06) abstract column 7, line 45 - line 61; figure 10 column 6, line 23 - line 64; figures 5,7	1-13
X	EP 0 997 189 A (AIR PROD & CHEM) 3 May 2000 (2000-05-03) abstract	1,13
A	column 7, paragraph 41 - paragraph 42; figures 4,5	2-12
X	EP 0 916 400 A (PRAXAIR TECHNOLOGY INC) 19 May 1999 (1999-05-19) abstract	1,13
A	page 2, paragraph 4; figure 2	2-12
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

19 January 2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 01 28648 A (MANTEUFEL ROLF P C) 26 April 2001 (2001-04-26) abstract; figure 1</p>	1-13

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information on patent family members

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